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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,260	12/01/2003	Shigeru Emoto	244681US0	1633

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EXAMINER	
DOTE, JANIS L	

ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,260	EMOTO ET AL.	
	Examiner	Art Unit	
	Janis L. Dote	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12 and 15-18* is/are rejected.

7)☒ Claim(s) *11,13 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/1/03;4/21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The examiner acknowledges the amendments to the specification and the abstract set forth in the amendment filed on filed on Jul. 21, 2005. Claims 1-18 are pending.

2. US patent 6,597,883, listed on the "List of related cases" in the Information Disclosure Statement (IDS) filed on Dec. 1, 2003, has been crossed out by the examiner because the reference is already listed on the form PTO-1449 filed on Dec. 1, 2003.

The examiner has considered only the material submitted by applicants on Apr. 21, 2005, i.e., copies of the originally filed claims, abstracts, and drawings of the US applications listed on "List of related cases" in the Information Disclosure statement filed on Dec. 1, 2003.

The examiner has considered the US application 11/081,738 listed on "List of related cases" in the Information Disclosure statement filed on Apr. 21, 2005.

3. The objections to the specification set forth in the office action mailed on Mar. 21, 2005, paragraph 4, have been withdrawn in response to the amended paragraphs beginning at page 16, line 3, and at page 64, line 8, of the specification, set forth in the amendment filed on Jul. 21, 2005.

The objections to the specification set forth in the office action mailed on Mar. 21, 2005, paragraph 5, items (1) and (2), have been withdrawn in response to the paragraph added following the paragraph at page 8, line 23, of the specification, and the paragraph added following the paragraph at page 16, ending at line 26, of the specification, set forth in the amendment filed on Jul. 21, 2005.

The rejection of claims 1-10 and 12-18 under 35 U.S.C. 102(e) over US 2004/0142265 A1 (Tomita), set forth in the office action mailed on Mar. 21, 2005, paragraph 10, has been withdrawn. Applicants have perfected their claim to foreign priority under 35 U.S.C. 119 for the subject matter recited in instant claims 1-18. The verified English-language translation of the priority document Japanese Patent Application 2002-349008 filed on Jul. 21, 2005, provides antecedent basis as set forth under 35 U.S.C. 112, first paragraph, for the subject matter recited in instant claims 1-18. Accordingly, Tomita is no longer prior art with respect to the subject matter recited instant claims 1-10 and 12-18.

The rejection of Claims 1-10, 12, and 15-18 under 35 U.S.C. 103(a) over US 2003/0138717 (Yagi), where Yagi qualifies as prior art under 35 U.S.C. 102(a), as evidenced by applicants' admission at page 10, lines 7-18, and page 11, lines 2-6, set

forth in the office action mailed on Mar. 21, 2005, paragraph 12, has been withdrawn. For the reasons discussed above, applicants have perfected their claim to foreign priority under 35 U.S.C. 119 for the subject matter recited in instant claims 1-18. Accordingly, Yagi, as prior art under 35 U.S.C. 102(a), is no longer prior art with respect to the subject matter recited instant claims 1-10, 12, and 15-18.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The method broadly recited in instant claim 18 lacks antecedent basis in the specification. See page 11, line 24, to page 12, line 5, of the specification, which teaches that the method involves "subjecting the dispersed material to a polyaddition reaction with a reaction material formed of amines." The method recited in instant claim 18 does not recite said "polyaddition reaction with a reaction material formed of amines." Moreover, the specification at pages 11-12 does not disclose the step of "washing the toner particles to remove excessive particles of the particulate resin material from a surface thereof," recited in instant claim 18.

Applicants' arguments filed on Jul. 21, 2005, have been fully considered but they are not persuasive.

Applicants assert that there is adequate antecedent basis for originally filed claim 18 in the specification at page 38, line 14, to page 47, line 17, in particular the disclosure at page 44, lines 20ff, page 45, lines 18ff, page 45, lines 27ff, and page 46, lines 18ff.

However, the disclosure at said cites does not provide antecedent basis for the method broadly recited in instant claim 18. For example, the disclosure at page 38, lines 23ff, states that the toner of the present invention can be prepared by "reacting a dispersion formed of the prepolymer A having an isocyanate group with (B). As a method of stably preparing a dispersion formed of the urea-modified polyester or prepolymer (A) in an aqueous medium, a method of including toner constituents such as the urea-modified polyester or the prepolymer (A) into an aqueous medium and dispersing them upon application of shear stress is preferably used." Prepolymer (A) is defined as a "polyester prepolymer having an isocyanate group." See the specification, page 24, line 15. The disclosure at page 44, lines 20ff, teaches that "dissolving the urea-modified polyester or prepolymer (A)." The disclosure at page 45, lines 18ff, states that "[w]hen amines (B) as the

compounds having an active hydrogen atom is [sic: are] reacted with the modified polyester capable of reacting with the compounds having an active hydrogen atoms, the elongation and/or crosslinking reaction time depend on reactivity of an isocyanate structure of the prepolymer (A) and amine (B)." The method recited in instant claim 18 does not require that the modified polyester resin be a modified polyester resin having an isocyanate group or a urea-modified polyester. Nor does the method require that the compound having an active hydrogen atom be an amine.

In addition, the disclosure at page 46, lines 18ff, does not state "washing toner particles to remove excessive particles of the particulate resin material from a surface thereof" as recited in instant claim 18. Rather, the disclosure states that a "cyclone, a decanter, a centrifugal separation, etc., can remove particulates in a dispersion liquid."

Accordingly, for the reasons discussed above, the specification at pages 38-47 does not provide antecedent basis for the method broadly recited in instant claim 18.

Applicants are reminded that to overcome the objection they merely have to amend the specification by incorporating the objected claim language of originally filed claim 18 in an appropriate location.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-10, 12, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagi, as evidenced by applicants' admission at page 10, lines 7-18, and page 11, lines 2-6.

Yagi discloses a toner comprising toner particles comprising a binder resin that comprises a modified polyester resin and an unmodified polyester resin - low molecular weight polyester 1, carnauba wax as the releasing agent, and carbon black, and organic fine resin particles 1 adhered to the surface of the toner particles at a coverage ratio of 47%. See paragraphs 0239-0273; example 3 in paragraph 0275; and Table 1 at page 23, example 3. The toner has a number average particle size (Dn) of 5.17 μm and a volume average particle size (Dv) of 5.80 μm, and a ratio of Dv/Dn of 1.12. The toner also has an average circularity of 0.957. See Table 1 at page 23, example 3. The Dv, the ratio Dv/Dn, and the average circularity are within the ranges recited in instant claims 6, 7, and 12, respectively. The modified polyester resin has a glass transition temperature (Tg) of 55°C, which is within the range of

40 to 55°C recited in instant claim 1. See paragraph 0246. Low molecular weight polyester resin 1 has an acid value of 25, which is within the acid value range recited in instant claim 8. The weight ratio of the modified polyester to low molecular weight polyester resin 1 is about 0.6, which is within the ratio range of 5/95 to 40/60 recited in instant claim 1. The weight ratio was determined by the information provided in example 3 of Yagi. Organic fine resin particles 1 have a Tg of 57°C, and an average particle size of 100 nm. The Tg and average particle size meet the ranges recited in instant claim 1 and 10, respectively. The fine resin particles comprise a vinyl resin, which meets the compositional limitation recited in instant claim 9. Accordingly, the Yagi toner particles in example 3 meet the toner particles compositional limitations recited in instant claims 1, 4, 5, and 8, and the physical limitations recited in instant claims 6, 7, and 12. The Yagi organic fine particles meet the particulate resin limitations recited in instant claims 1, 9, and 10.

Yagi also discloses that the toner can be used in a two-component developer comprising a carrier or as a one-component developer, thereby meeting the developer limitations recited in instant claim 15. Paragraph 0220. Yagi discloses a toner container shown in Fig. 2. Paragraph 0236.

Yagi does not disclose that the toner in example 3 has (1) a ratio of the toner storage modulus at 80°C (G'80) to the toner storage modulus at 180°C (G'180) of 100 to 1000 as recited in instant claim 1. Nor does Yagi disclose that the toner has the values of G'80 and G'180 recited in instant claims 2 and 3.

The instant specification at page 10, lines 15-18, discloses that a toner having a ratio G'80/G'180 of 100 to 1000 has good low-temperature fixability, releasability, and a small particle diameter. According to the instant specification at page 11, lines 2-6, low temperature fixability cannot be obtained when the ratio is greater than 1000, and it is difficult to form a toner particle having a ratio of less than 100. The instant specification at page 10, lines 7-12, further discloses that when the toner has a G'80 and a G'180 as recited in instant claim 3, low-temperature fixability is further improved. The instant specification at page 17, line 26, to page 18, line 1, discloses that the particulate resin material improves friction chargeability of the toner. The specification at page 18, lines 1-4, also teaches that when the particulate resin material coverage is less than 50%, a "sufficient friction chargeability cannot be impacted to the toner, resulting in insufficient image density and background fouling of imaged produced thereby." The specification shows

that toner particles that are not covered with the organic resin particles did not exhibit stable charging after 100,000 runs; while toner particles having a resin particle coverage of more than 50% exhibited stable charging after 100,000 runs. See the instant specification, Table 3 at page 69.

As discussed above, the compositions of the Yagi toner particles and the Yagi organic fine resin particles in example 3 meet the compositional limitations recited in the instant claims. The toner Dv and ratio Dv/Dn meet the ranges recited in instant claims 6 and 7, respectively. As discussed infra, the toner particles in example 3 are obtained by a process that meets the steps recited in instant claim 18. Yagi discloses that the toner in example 3 has low temperature fixability and offset resistance, and does not contaminate the image forming members used, such as the fixing device and image bearing member. Paragraph 0032; and Table 3 at page 23, example 3, which reports that the toner in example 3 has a "lower fixing temperature" of 140°C and exhibits no occurrence of offset for temperatures below 220°C. Table 3 also reports that no toner filming was observed. These are the properties sought by applicants. Accordingly, because the Yagi toner particles and fine resin particles in example 3 meet the compositional and physical limitations recited in the instant claims and the Yagi

toner appears to have the toner properties sought by applicants, it is reasonable to presume that the Yagi toner in example 3 has the storage modulus ratio G'80/G'180 recited in instant claim 1 and the values of G'80 and G'180 recited in instant claims 2 and 3. The burden is on applicants to prove otherwise. Fitzgerald, supra.

As discussed above, organic fine resin particles 1 in example 3 of Yagi are present on the surface of the toner particles in a coverage ratio of 47%. The coverage ratio of 47% is outside the coverage ratio of 50 to 100% recited in instant claim 1. However, Yagi teaches that the fine resin particle coverage ratio can range from 1 to 90%, preferably from 5 to 80%. Paragraphs 0083 and 0084. The upper limits, 90% and 80%, of the coverage ratios are within the range of 50 to 100% recited in instant claim 1. The ranges of 1 to 90% and 5 to 80% overlap the range of 50 to 100% recited in instant claim 1. Yagi exemplifies toners having a fine resin particle coverage ratio of 85%, which is within the range recited in instant claim 1. See Table 1 at page 23, example 11. According to Yagi, "[w]hen the coverage ratio is greater than 90%, the surface of the toner particles is almost perfectly covered with the resin particles, and the resin particles tend to prevent a release agent . . . included in the toner particles from exuding

therefrom. Thereby, the releasing effect cannot be obtained, resulting in occurrence of offset problem." When the coverage ratio is less than 1%, "the resin particles cannot impart good frictional charging properties to the toner, and thereby the resultant toner has low charge quantity. Therefore, the resultant images have low image density and background fouling, and the toner tends to scatter in the developing section, resulting in contamination of various members used in the image forming apparatus." Paragraph 0084. Thus, the prior art appears to recognize that the coverage ratio is a result-effective variable. The variation of a result-effective variable is presumably within the skill of the ordinary person in the art.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yagi, to adjust, through routine experimentation, the fine resin particle coverage ratio in the toner in example 3 of Yagi, such that the resultant toner has a coverage ratio that is within the range of 50 to 90% recited in instant claim 1, such as 80% or 90%, because that person would have had a reasonable expectation of successfully obtaining a toner that has good frictional charging properties and that provides images with high image density with no background fouling.

The Yagi toner in example 3 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing a material solution comprising the carnauba wax and the low molecular weight polyester; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution, and additional low molecular weight polyester; (4) mixing the pigment-wax dispersion of step (3), a modified polyester resin comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the urea-modified polyester, and a ketimine compound, which has an active hydrogen, in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising resin particles, while reacting the ketimine compound with the modified polyester resin to form toner particles; (6) removing the organic solvent from the dispersion of step (5); and (7) washing the toner particles resulting from step (6). Paragraphs 0252-0273. The Yagi process steps meet the process steps recited instant claim 18, but for the recitation "to remove excessive particles of the particulate resin material from a surface thereof." Yagi does not disclose that washing the toner particles removes the excessive organic fine resin particles from the surface of the toner particles as recited in instant claim 18. However, the recitation "to remove excessive particles of the particulate

resin material from a surface thereof" as recited in instant claim 18 is a statement of intended use, which does not distinguish the process disclosed by Yagi. For the reasons discussed above, the toner rendered obvious over the teachings of Yagi meets the coverage amount recited in instant claim 1. Thus, the intended use recited in the instant claim does not result in a difference between the process recited in the instant claim and the process rendered obvious over the teachings of Yagi.

Applicants' arguments filed on Jul. 21, 2005, have been fully considered but they are not persuasive.

Applicants assert that Yagi does not quality as "prior art under 35 U.S.C. 103(a)/102(e) [sic: 103(c)]." Applicants state that "the presently claimed subject matter and the subject matter of US'717 [Yagi] were commonly owned at the time the presently claimed invention was made [emphasis in the original]."

However, Yagi is prior art to the instant application under 35 U.S.C. 103(c). Applicants have not clearly and conspicuously stated that Yagi, US 2003/0138717, and the instant application were, at the time the invention was made [that of the instant application], owned by, or subject to an obligation of assignment to the same person" (emphasis added). See MPEP

706.02(1)(2)(II) (8th edition, Rev. 2, May 2004) and the Official Gazette, December 26, 2000, 1241 OG 96, "Guidelines Setting Forth a Modified Policy Concerning the Evidence of Common Ownership, or an Obligation of Assignment to the Same Person as Required by 35 U.S.C. 103(c)," III and IV. A proper statement of ownership would be, "Application X and Patent A were, at the time the invention of Application X was made, owned by Company Z." See MPEP 706.02(1)(2)(II) (8th edition, Rev. 2, May 2004) and the Official Gazette, 1241 OG 96. Accordingly, the rejection under 35 U.S.C. 103(a) over Yagi stands.

7. Claims 11, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not disclose or suggest a particulate material having a volume-average molecular weight of 1000 to 100,000 recited in instant claim 11 for the reasons discussed in the office action mailed on Mar. 21, 2005, paragraph 13, which are incorporated herein by reference.

Yagi does not teach or suggest that its toner particles have a spindle shape as recited in instant claims 13 and 14.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (571) 273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Janis L. Dote
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JLD
Sep. 29, 2005